	Application No.	Applicant(s)
Notice of Allowability	10/017,013	LOECHER, MARKUS
	Examiner	Art Unit
	Anthony Gutierrez	2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to _the Response filed 6/28/04_.

2. ☒ The allowed claim(s) is/are _1-6 and 8_.

3. ☒ The drawings filed on _14 December 2001_ are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

    Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _7/22/04_ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as

provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Michele L. Conover on 7/22/04.

In claim 1, line 6, delete "when the number" and insert - -when a number- -.

In claim 1, line 7, delete "when the number" and insert - -when a number- -.

In claim 1, lines 11 and 12, delete "said transition probability $p(i|j)$ is the switching

probability from state j to state i, that is, the probability" and insert - - said transition

probabilities $p(i|j)$ are switching probabilities from state j to state i, characterized by the

probability - -.

In claim 1, line 12, delete the numeral "4" and insert the word - - four - -.

In claim 1, line 14, delete "probabilities the last N states" and insert - -

probabilities for a last N states".

In claim 1, line 19, "computing the two-dimensional" and insert - - computing

two-dimensional- -.

In claim 1, lines 19 and 20, delete "for the initial M windows of N scans," and

insert - - for an initial M windows of N scans, thereby forming a first vector set, - -

In claim 1, line 21, "computing the two-dimensional" and insert - - computing

two-dimensional- -.

In claim 1, lines 21 and 22, delete "for the final N number of scans," and insert - -

for a final N number of scans, thereby forming a second vector set, - -.

In claim 1, line 23, delete the phrase "2D' and insert - - two-dimensional - -.

In claim 1, line 25, delete "by estimating the" and insert - - by estimating an - -.

In claim 1, lines 26 and 27, delete "the two foregoing sets of vectors" and insert - -

the first and second vector sets - -.

In claim 1, line 28, delete "to monitor the persistence" and insert - - to monitor a

persistence - -.

In claim 1, line 29, delete "in the operation" and insert - - in an operation - -.

In claim 2, line 4, delete "constructing the feature" and insert - - constructing a

feature - -.

In claim 3, line 4, delete the word "such".

In claim 4, line 4, delete "arcing in the operation" and insert - - arcing in an

operation - -.

In claim 4, line 6, delete "when the number" and insert - -when a number- -.

In claim 4, line 7, delete "when the number" and insert - -when a number- -.

In claim 4, lines 11 and 12, delete "said transition probability $p(i|j)$ is the switching

probability from state j to state i, that is, the probability" and insert - - said transition

probabilities $p(i|j)$ are switching probabilities from state j to state i, characterized by the

probability - -.

In claim 4, line 12, delete the numeral "4" and insert the word - - four - -.

In claim 4, line 14, delete "probabilities the last N states" and insert - -

probabilities for a last N states".

In claim 4, line 19, "computing the two-dimensional" and insert - - computing

two-dimensional- -.

In claim 4, lines 19 and 20, delete "for the initial M windows of N scans," and

insert - - for an initial M windows of N scans, thereby forming a first vector set, - -

In claim 4, line 21, "computing the two-dimensional" and insert - - computing

two-dimensional- -.

In claim 4, lines 21 and 22, delete "for the final N number of scans," and insert - -

for a final N number of scans, thereby forming a second vector set, - -.

In claim 4, line 23, delete the phrase "2D' and insert - - two-dimensional - -.

In claim 4, line 25, delete "by estimating the" and insert - - by estimating an - -.

In claim 4, line 26, delete "the two foregoing sets of vectors" and insert - - the first

and second vector sets - -.

In claim 4, line 27, delete "to monitor the persistence" and insert - - to monitor a

persistence - -.

In claim 4, lines 27 and 28, delete "in the operation" and insert - - in an operation

- -.

In claim 5, line 3, delete " are updated".

In claim 5, line 4, delete "constructing the feature" and insert - - constructing a

feature - -.

In claim 5, line 4, delete " constructed".

In claim 6, line 4, delete "corresponding indicating such failure prediction" and insert - - indicating failure prediction - -.

Delete claim 7 in its entirety.

In claim 8, line 6, delete "when the number" and insert - -when a number- -.

In claim 8, line 7, delete "when the number" and insert - -when a number- -.

In claim 8, lines 11 and 12, delete "said transition probability $p(i|j)$ is the switching probability from state j to state i, that is, the probability" and insert - - said transition probabilities $p(i|j)$ are switching probabilities from state j to state i, characterized by the probability - -.

In claim 8, line 12, delete the numeral "4" and insert the word - - four - -.

In claim 8, line 14, delete "probabilities the last N states" and insert - - probabilities for a last N states".

In claim 8, line 20, "computing the two-dimensional" and insert - - computing two-dimensional- -.

In claim 8, lines 20 and 21, delete "for the initial M windows of N scans," and insert - - for an initial M windows of N scans, thereby forming a first vector set, - -

In claim 8, line 22, "computing the two-dimensional" and insert - - computing two-dimensional- -.

In claim 8, lines 22 and 23, delete "for the final N number of scans," and insert - - for a final N number of scans, thereby forming a second vector set, - -.

In claim 8, line 24, delete the phrase "2D' and insert - - two-dimensional - -.

In claim 8, line 26, delete "by estimating the" and insert - - by estimating an - -.

In claim 8, line 27, delete "the two foregoing sets of vectors" and insert - - the first and second vector sets - -.

In claim 8, line 28, delete "to monitor the persistence" and insert - - to monitor a persistence - -.

In claim 8, line 29, delete "in the operation" and insert - - in an operation - -.

Allowable Subject Matter

2.   Claims 1-6, and 8 are allowed.

3.   The following is an examiner's statement of reasons for allowance:

The Applicant's claimed invention is deemed allowable over the prior art as the prior art fails to teach or fairly suggest using two-state first order Markov processes with associated transition probabilities and supervised training of devices which have failed due to known causes, in order to provide predictive maintenance of a device in which a pattern classifier is derived from an optimal linear discriminant of two vector sets in a scatter diagram, wherein the vector sets are defined by the specific criteria presented in the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Anthony Gutierrez whose telephone number is (571)

272-2215. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Marc Hoff can be reached on (571) 272-2216. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Anthony Gutierrez
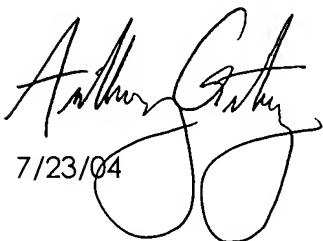
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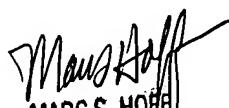
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